

REMARKS

Favorable reconsideration and allowance are respectfully requested for Claims 2-4 in view of the foregoing amendment and the following remarks.

Responsive to the claim objections, by way of the foregoing amendment, the objections are obviated. Accordingly, withdrawal of the objections is respectfully requested.

Claims 2-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over the prior art in view of Meinke et al. This rejection is respectfully traversed.

The admitted prior art, shown in Figures 4 and 5, does not disclose or suggest, among other features, that the rolling bearing comprises a double-row, angular ball bearing. As disclosed in the specification at page 3, lines 9-11, Figures 4 and 5 show a combination bearing comprising a pair of single row, angular ball bearings.

Meinke et al. does not rectify the deficiencies of the admitted prior art in Figures 4 and 5. Meinke et al. does not disclose or suggest, among other features, the rolling bearing comprising a double-row, angular ball bearing. Meinke et al. discloses a bearing assembly 27 referred to as an emergency holding device. Meinke et al. is silent as to the type of bearing used for this emergency holding device and only notes that it is arranged as a starting bearing for supporting the rotating body (see column 3, lines 43-44). In the Advisory Action of May 22, 2002, the Examiner has alleged that the bearing assembly in Meinke et al. would support an axial and radial force component. There is no support in Meinke et al. for the Examiner's position. Even if the bearing would

support an axial load, the bearings as shown are not double-row, angular ball bearings. Thus, it is respectfully submitted that the claimed invention is patentably distinguishable over the cited references, as noted above. Accordingly, withdrawal of the rejections is respectfully requested.

Regarding the bearing assembly 27 of Meinke et al., in the Advisory Action the Examiner has alleged that the bearing 27 supports any axial load and that the bearing inherently supports an axial load as well as a radial load because there is a gap between the bearing and the contacting surface of body 14. Applicant's representative disagrees. As shown in Meinke et al., the bearing assembly 27 is not supported in an axial direction on the inward surface. Thus, according to the allegation of the Examiner, the radial connection of bearing assembly 27 would support any axial load. This is not disclosed in Meinke et al. No axial support is shown. In operation, angular ball bearings support an axial load by having a race axially connected to a rotating member whereby the angular ball bearings transfer the axial load to the other race and, thus, to a second member connected to the other race. Angular ball bearings are different from radial ball bearings. For axial loads, some type of axial connection is required. In Meinke et al. no axial connection is shown between skirt 14 and the outer race of the bearing assembly 27, nor the inner race and the inner member. Both connections to the races are shown as purely radial in nature. Thus, the bearing assembly 27 of Meinke et al. is not an angular ball bearing and no axial connection is shown.

The motivation to combine the admitted prior art and Meinke et al. is improper. As the admitted prior art and Meinke et al. show two different types of ball bearings, one of ordinary skill in the art would not seek to exchange the

race of one for the race of the other nor seek to modify one type based on the operation of the other. As the combination of references fails to teach a double-row angular ball bearing and the motivation to combine the references is improper, a *prima facie* case of obviousness has not been shown. Accordingly, withdrawal of the rejection is respectfully requested.

Although the above discussion alone is sufficient to overcome the rejection, there are additional separate alternative grounds to overcome the rejection. Neither the admitted prior art nor Meinke et al. discloses or suggests the integral race being supported only by the split-type races through the balls. In the admitted prior art, two rows of singular ball bearings are used. In Meinke et al., the bearing assembly 27 shows two integral races. An integral and a split-type race in combination are not shown in either reference. Thus, it is respectfully submitted that the claimed invention is patentably distinguishable over the cited references, as noted above. Accordingly, withdrawal of the rejection is respectfully requested.

In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #152/48811).

Respectfully submitted,



J. D. Evans
Registration No. 26,269
William G. Ackerman
Registration No. 45,320

CROWELL & MORING, LLP
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844

JDS:WGA:sbh

MARKED-UP VERSION OF AMENDMENTS

IN THE CLAIMS

Please amend Claims 2 and 4 as follows:

2. (Amended) A bearing unit comprising a magnetic bearing which supports a rotatable shaft in a non-contact condition, and a rolling bearing which does not support the rotatable shaft while the magnetic bearing supports the rotatable shaft, wherein the rolling bearing is arranged to be connected in the axial direction to the rotatable shaft for supporting the rotatable shaft upon rotation stoppage, the rolling bearing comprising a double row, angular ball bearing and provided on the side where thrust load is received or on the side where positioning in the axial direction is carried out, the double row, angular ball bearing having inner and outer races and balls between the inner and outer races, and wherein one of the inner and outer races is an integral race installed on the side of the rotatable shaft with a radial clearance between the integral race and the shaft in the non-contact condition, the other of the inner and outer races being of a split type, and the integral race being supported only by the [other of the inner and outer races] split-type races through the balls, whereby a large thrust load from the rotatable shaft is borne by the rolling bearing upon the [rotation] rotation stoppage.

4. (Amended) A bearing unit comprising a magnetic bearing which supports a rotatable shaft in a non-contact condition during operation, and a rolling bearing which is provided on either side of the magnetic bearing and arranged to be separated from the rotatable shaft while the magnetic bearing supports the rotatable shaft and to come into contact with the rotatable shaft for supporting the rotatable shaft when the magnetic bearing does not support the

rotatable shaft, and a supporting member for supporting the rolling bearing, wherein the rolling bearing provided on the side with respect to the magnetic bearing where the thrust load is received or on the side with respect to the magnetic bearing where positioning in the axial direction is carried out comprises a double row, angular ball bearing for supporting the rotatable shaft against a thrust load upon rotation stoppage, and wherein the double row, angular ball bearing has inner and outer races and balls between the inner and outer races, such that one of the inner and outer races is an integral race installed on the side of the rotatable shaft with a radial clearance between the integral race and the shaft in the non-contact condition, the other of the inner and outer races being of a split type, and the integral race being supported only by the split-type races through the balls against the thrust load from the rotatable shaft when the rolling bearing comes into contact with the rotatable shaft while the other of the inner and outer races is securely supported by the supporting member.